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Assessment of the anti-microbial agent C31G as a spermicide: comparison with nonoxynol-9.

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The broad-spectrum anti-microbial agent, C31G, containing an equimolar mixture of n-dodecyl-dimethylamine-N-oxide (C12-N-O) and N-(n-dodecyl), N-dimethyl-glycine (C12-betaine), was tested for spermicidal activity in comparison with the currently used spermicide, nonoxynol-9 (N-9). The rate of sperm cell permeabilization by the spermicides, as assayed with the fluorescent probe, TO-PRO-1, increased as the cube of the C31G concentration, while the rate increase was linear with N-9 concentration. At 0.04%, the rate of sperm cell permeabilization with both spermicides is at the limit of rapid measurement. C31G diffuses through cervical mucus at a more rapid rate than does N-9. C31G has long been known to aid wound healing and reduce inflammation, whereas N-9 has been reported to induce vaginal irritation. C31G would, thus, seem to have the spermicidal efficacy, the broad range of anti-microbial activity, and the lack of inflammatory activity that is sought in the ideal vaginal spermicide.

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